REMARKS

Reconsideration of this application is respectfully requested.

I Status of the Claims

Claims 20-22 are pending.

Claims 20-22 have been amended and the amendments recite that the fibers extend the length of the layer and thus exclude short or chopped fibers and no new matter is added.

II Telephone Interview

Applicants thank Examiner Aftergut for the courtesies extended to Louis DelJuidice in the telephone interview of October 21, 2003 wherein the prior art or record and the claims were discussed.

III Rejections Under 35 U.S.C. § 103(a)

Claims 20 and 21 stand rejected under 35 U.S.C. § 103(a) as obvious over Jackson (U.S. Patent 3,646,610) in view of Sugiyama (Japanese Patent No. 08-131588), Kusumoto (U.S. Patent 6,106,413), Akatsuka (U.S. Patent No. 5,156,396), Applicant Admitted Prior Art (Specification, page 1 lines 18-25), Lauraitis (U.S. Patent No. 4,000,896), and VanAuken (U.S. Patent No. 4,023,801). Claims 20-22 stand rejected under 35 U.S.C. § 103(a) as obvious over Cheng (U.S. Patent No. 5,720,671), Sugiyama, Yoshida (Japanese Patent No. 09-140,839), Kusumoto (Japanese Patent No. 09-266966) ("JP '966"), U.S. Patent No. 5,685,783 to Akatsuka et al. ("US '783"), Kusumoto, Applicant Admitted Prior Art, Lauraitis, and VanAuken. Applicants

respectfully traverse the above rejections. The above combinations above do not render the claims unpatentable.

The Jackson Reference

Jackson's invention is unlike both the present invention and all other references cited by the Examiner in that Jackson's golf club shaft is composed of fiberglass. In contrast, the present invention and the other references are formed of fiber-reinforced polymer composites ("FRP"). Jackson discloses a fiberglass golf shaft wherein "the longitudinal fibers are continuous and uniformly distributed about the axis and throughout the length of the shaft and are bound together by the binder and by chopped fiber glass particles or chopped filaments; said particles are dispersed at random throughout the length of the shaft, the chopped particles being preferably of greater length than width." Jackson, column 2, lines 26-33. Chopped glass fibers constitute a major reinforcing agent in the bonding of fiberglass layers.

Also, Jackson layers fiberglass material one on the other and extra chopped fiber glass particles are placed along the interface in addition to the intermingling resin. The additional particles are distributed at a variety of angles with respect to the longitudinal axis of the golf shaft and serve an integral function by strengthening the bond between layers. Jackson states, "chopped fiber glass particles are disposed between the respective layers, and are distributed at random, lying in different directions securing the different layers together and securing the separate longitudinally extending glass fibers together and the helically wound fibers together." Jackson, column 2, lines 52-56.

In contrast, claims 20-22 have been amended to recite that the fibers of each layer "only extending along an entire length of said ... layer". The claims have been amended to recite that only full length fibers are included in each layer, which excludes the use of short or chopped fibers. Thus, Jackson does not teach or suggest any of the layers of the present invention and one of ordinary skill in the art would not be motivated to use Jackson's layers in combination with the remaining references.

The Sugiyama Reference

The Examiner states that it would be obvious to combine a first reinforcement layer of Sugiyama in addition to the layers disclosed in Jackson. Applicants respectfully disagree because Sugiyama teaches away from the present invention. Below is a translation of paragraph 0028, relating to table 4 of Sugiyama, as provided from the Japan Patent Office web site (http://www.ipdl.jpo.go.jp/homepg_e.ipdl):

> [0028] The grip side (location of a grip edge to 123mm) of the golf club shaft of the above example 1 and the examples 1-2 of a comparison was fixed, 13.5 kgf-cm twisted, the load of the torque was carried out to the tip side, and the twist angle at that time was measured. moreover -- the same -- a grip side (location of a grip edge to 243mm) -- fixing -- a tip side -- weight with a weight of 3kg -- hanging -- every 1kg of after that -- the increase of the weight of weight -- it carried out, and it went and the flexural strength at that time was measured. Those results are shown in a table 4 with shaft weight.

Sugiyama discloses that his shafts range between 78 and 100 grams in weight for only a 2.5° to 2.8° torsion angle. Enclosed herewith is a Declaration from the Inventors submitting test results of the claimed golf club shaft and the results are listed in Exhibit A, Table 1. Table 1 discloses that a 37 gram club of the present invention can withstand a torsion angle of 5.2° to 5.8°. Thus, the present invention can provide twice the torsion angle at half the weight. Thus, it is not obvious to combine

the first reinforcement layer of Sugiyama's heaver and weaker club with Jackson's heavier club to get a lighter and stronger club as claimed.

The Kusumoto Reference

The Examiner states that Kusumoto discloses a second reinforcement layer and that it would be obvious to one of ordinary skill in the art to combine Kusumoto's layer with Jackson and Sugiyama. Kusumoto does not disclose the layers in the same orientation and order of the present invention. There is no motivation or suggestion that the particular reinforcement layers of Kusumoto would be obvious to combine with Jackson. Kusumoto's method of combining layers does not approximate the features of the presently claimed invention. Kusumoto discloses AP prepreg, in which the fibers of the prepreg sheet are angled to the longitudinal axis of the golf club shaft, and SP prepreg, where the fibers of the prepreg sheet are parallel to the longitudinal axis of the golf club shaft. *See*, Kusmoto, column 2, lines 38-45. The intermediate sheet is disposed between an AP prepreg layer and the SP prepreg layer. As illustrated in Kusmoto, Figure 2, the intermediate layer is a perpendicular layer (90°) and is sandwiched between an angled layer and a straight layer, or Kusumoto's configuration is "angled, perpendicular, straight" for the section surrounding the "second angled layer".

The second angled layer of the presently claimed invention is located between two straight layers ("SP layers"), resulting in a "straight, angled, straight" configuration. Kusumoto specifically teaches that the intermediate layer is to be sandwiched between the AP prepreg layer and the SP prepreg layer because

> [w]hen a layer of AP prepreg ... is made to closely adhere to a layer of SP prepreg ... blow holes occur on an interface ... so that separation and damage tend to occur. However, when the thin layer of prepreg of high resin is provided between the layer of AP prepreg and the layer of SP prepreg ... it becomes difficult for blow holes to be generated on the interface. Accordingly, the occurrence of separation is prevented, and the mechanical strength between the layers can be enhanced.

Kusumoto, column 2, line 58 to column 3, line 3. Kusumoto's layering scheme is specifically designed for his exact layering pattern and choice of AP or SP prepeg. One of ordinary skill in the art is not taught to change the layers surrounding Kusumoto's intermediate layer and is thus not motivated to combine Kusumoto's layers with Jackson's layers.

The Akatsuka References

The Examiner states the Akatsuka discloses a golf club shaft having a weight of "5-63g", Akatsuka, column 4, line 45, and this reads on the claimed range of 30 to 40 grams. Applicants respectfully direct the Examiner to the Certificate of Correction attached to Akatsuka wherein Column 4, line 45 was corrected to read "53-63g". Further, every shaft disclosed by Akatsuka falls within the range of 57.3 to 64.1 grams. *See*, Akatsuka, Tables 2 and 4. Akatsuka does not teach or suggest the claimed weight.

Additionally, the Examiner has repeatedly recited that it is obvious to one of ordinary skill in the art to lighten any or all of the golf clubs cited in the prior art to attain the claimed weight. However, the Examiner has failed to actually cite a golf club with the requisite weight and strength as claimed. Applicants agree that any club can be lightened but at the sacrifice of important attributes, e.g. strength, torsion angle, and flexibility. One point of novelty is that the golf club of the present invention is strong, flexible and light. Applicants respectfully request the Examiner to

review the physical properties of the claimed golf club in Table 1. None of the prior art references cited by the Examiner disclose the combination of physical properties the presently claimed manufacturing method provides. For example, Akatsuka discloses 17 different shafts with similar or greater torsion angles but all of the shafts are at least 50% heavier than the shaft of the current invention. Thus, one of ordinary skill in the art is not taught that the physical properties disclosed in Table 1 can be obtained for the claimed weight.

Further to the arguments recited in the response dated April 24, 2003, Akatsuka does not disclose the layering claimed in claims 20-22. The table below illustrates the layering of the present invention, Akatsuka and US '783.

Present Invention	First Reinforcement (90°)	First Angled (Θ)		First Straight (0°)	Second Angled (Θ)		Second Straight (0°)	Second Reinforcement (0°)
	First Fiber 90°	Second Fiber +/-Θ	Third Fiber +/-Θ	Fourth Fiber 0°	Fifth Fiber +/-Θ	Sixth Fiber +/-Θ	Seventh Fiber 0°	0°
Akatsuka	Layer 4 (0°)	Layer 5 (90°)		Layer 1 (Θ)	Layer 6 (0°)		Layer 2 (0°)	Layer 3 (0°)
	Fourth Fiber 0°	Fifth Fiber 90°		First Fiber +/-Θ	Sixth Fiber 0°		Second Fiber 0°	Third Fiber 0°
US '783	Layer 25 (90°)	Layer 21 (Θ)		Layer 22 (0°)	Layer 23 (90°)		Layer 24 (0°)	N/A
	90°	21a +/-Θ	21b +/-Θ	0°	90°		0°	N/A

Thus, one of ordinary skill in the art would not be taught to combine Akatsuka's heavier club that does not disclose the layers of the present invention with any of the references cited by the

Examiner. Additionally, one of ordinary skill would not use the layers of US '783 wherein the reference is silent as to the weight of the shaft.

The Cheng Reference

The Examiner contends that Cheng discloses a golf club having a first angled layer, a first straight layer, a second angled layer, and a second straight layer. Further, the Examiner admits that Chang fails to disclose a first and second reinforcing layer but that Sugiyama, Yoshida, Kusumoto, JP '966, and US '783 disclose the reinforcing layers.

Applicants respectfully disagree with the Examiner's reading of Cheng. Cheng only discloses an angled layer (22b, 22c) and a straight layer (22a) does not disclose a second angled and straight layer. Cheng discloses

> The fibers of layer 22a are parallel to the longitudinal axis of the base rod, while the fibers of layers 22b and 22c are angled from 30-90 degrees with respect to the longitudinal axis. It should be noted, however, that the fibers of successive base rod layers, such as the outer layers, may be parallel to one another. Other layer combinations are also possible. For example, the first 5 to 10 layers may be alternating angled layers such as layers 22b and 22c, and the next 5 to 10 layers may be parallel to the longitudinal axis such as layer 22a.

Cheng, column 3, lines 6-12. Cheng, as cited above, only teaches 5-10 angled layers and then 5-10 straight layers. It does not teach alternating angled, straight, angled, straight in successive layers. If Cheng's example in column 3, lines 9-12 is followed, one of ordinary skill in the art would use 5 angled layers and 5 parallel layers but Cheng does not disclose an alternating pattern as set forth in the claims. This is illustrated in the table below

Present Invention	First Reinforcement (90°)	First Angled (Θ)		First Straight (0°)	Second Angled (Θ)		Second Straight (0°)	Second Reinforcement (0°)
	First Fiber 90°	Second Fiber +/-Θ	Third Fiber +/-Θ	Fourth Fiber 0°	Fifth Fiber +/-Θ	Sixth Fiber +/-Θ	Seventh Fiber 0°	0°
Cheng - Fig 2	Θ	0°						
Cheng - Ex.*	Θ	Θ		Θ	Θ		Θ	0°

* *See*, Cheng, column 3, lines 6-12.

Further, although Cheng states that 10-20 layers can be used in a shaft (*see*, Cheng column 3, lines 27-28) Cheng actually teaches away from adding full length layers. Cheng notes that "if the thickness of the entire shaft was increased by 0.02 inches, as opposed to only over the length of the hosel section 24 as in the present invention, the weight of a graphite reinforced shaft would be increased by more than 20 g." Cheng, column 3, lines 55-60. Thus, one of ordinary skill in the art is not taught or motivated to add a full length reinforcing layer as it would increase the weight of the shaft.

Furthermore, Cheng's assignee, Harrison Sports, Inc., sells shafts that cover a full range of flexure but does not sell a graphite golf club shaft lighter than 50 grams in weight. *See*, Exhibit B, Harrison Sport's website (www.harrison.com) the "SL 50 Series". Accordingly, one of ordinary skill in the art is taught away from lightening Cheng's golf club shaft below 50 grams. Thus, Cheng does not disclose all the elements the Examiner contends and does not motivate one of ordinary skill in the art to combine the references with the remaining cited art.

The Yoshida Reference

The Examiner states that Yoshida discloses a reinforcement layer inside and adjacent to an angled layer and that is the same construction as Cheng. Applicants agree that Yoshida's first layer is perpendicular to the long axis of the shaft, but there is no teaching in Cheng that an inner layer is needed. Cheng specifically discloses adding outer layers, not inner layers. *See*, Cheng column 3, lines 6-18. Thus, one of ordinary skill in the art is not taught or motivated to add inner layers to Cheng. Additionally, the layering differs from the layering of the present invention.

Further, Yoshida discloses a shaft that is heavier than the claimed invention. Yoshida's shafts, as disclosed in Table 1, range from 40.3-42.1 grams. Thus, the shafts are heavier than the claimed invention and one of ordinary skill in the art is not motivated to add layers to lighten a golf club shaft.

The JP '966 Reference

The Examiner states that it would be obvious to combine the inner layer of JP '966 with the layers in Cheng. As above, Cheng teaches away from adding an inner layer to his layering scheme and JP '966 provides no teaching or motivation to counter Cheng's teaching. Further, JP' 966 is silent on the weight and the strength of the golf club shaft as described. Thus, one of ordinary skill in the art is not taught or motivated to combine layers because he is unaware of the strength benefits and/or weight consequences of JP' 966's layering scheme.

Applicant Admitted Prior Art, Lauraitis, and VanAuken

The Examiner cites the Applicant Admitted Prior Art and US '783 in the body of the Office Action dated July 30, 2003, page 3, as disclosing filament winding and sheet winding to form golf club shafts. Lauraitis and VanAuken are cited by the Examiner to evidence sheet thickness of prepeg layers.

Applicants respectfully submit that although the references are cited for background knowledge, one of ordinary skill in the art would not necessarily use the teachings and suggestions of the references because they do not disclose the layering as claimed.

Regarding the Examiner's comments stating that "claims 20 and 21 do no exclude the inclusion of a straight reinforcing layer between the first reinforcement layer and the first straight layer", Office Action dated July 30, 2003, page 9, Applicants respectfully direct the Examiner to claim 21 which recites "A method for forming a golf club shaft around a mandrel having a length along a longitudinal axis, the steps consisting of" (emphasis added). MPEP § 2111.03 defines the "transitional phrase 'consisting of' [as] excludes any element, step, or ingredient not specified in the claim."

Regarding the Examiner's comments regarding the weight of the golf club shaft, as stated above, none of the cited references discloses a shaft with the weight characteristics as claimed. Additionally, none of the art of record distinguish the weight or strength characteristics of the shaft by the length of the shaft and the user of the shaft (man, woman, senior). Applicants respectfully submit that one of ordinary skill in the art does not consider a specific club (i.e. a men's 5 iron) when testing for physical attributes but a general club to determine the physical attributes of a club manufactured in a specific fashion. Thus, it is improper for the Examiner to presuppose that one of

ordinary skill in the art would take such factors into consideration while being taught or motivated by the prior art.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated: January 21, 2004

Respectfully submitted,

By _____

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Titanium Series

The Titanium Series with its integrated titanium technology is a break thro shaft design. By strategically placing the proprietary titanium filament al n shaft, Harrison has created a design that reduces shaft "lag", which robs g of distance. This unique design reduces hooks and slices while adding dista for golfers of all levels.

Pro 2.5 Titanium

FEATURES ANIMATION

Pro 2.5 Titanium: Titanium Reinforced X-6200 Graphite
.335" Tip, 2.5° Torque, Mid-High Flex, 75g, 46", in A/R, R/F, F/S, S/X Flex .....(woods only)
.350" Tip, 2.5° Torque, Mid-High Flex, 75g, 46", in A/R, R/F, F/S Flex ..... (woods only)

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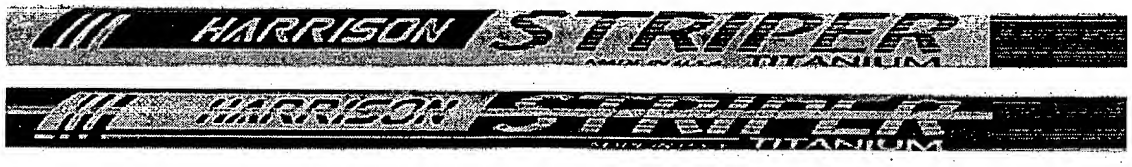
Striper J Titanium

FEATURES ANIMATION

Striper J Titanium: Titanium Reinforced Satellite Grade Graphite
.335" Tip, 3.8° Torque, MidFlex, 63g, 46", in A/R, R/F, F/S Flex .....(woods only)
.350" Tip, 3.8° Torque, MidFlex, 63g, 46", in A/R, R/F, F/S Flex ..... (woods only)

Striper Titanium

FEATURES ANIMATION



Striper Titanium: Titanium Reinf rced X-4800 Graphite
.335" and .350" Tip, 3.9° t rque, Mid Flex, 75g,

46", in A/R, R/F, F/S Flex (woods nly)

Titanium Lite

Titanium Lite: Titanium Reinforced Tip, X-5200 Graphite, patent pending
.335" and .350" Tip, 3.2° Torque, Mid-Flex, 72g, 46", in A/R, R/F, F/S Flex ..... (woods)
.370" Tip, 2.9° Torque, Mid-Flex, 82g, 46", in A/R, R/F, F/S Flex (irons)

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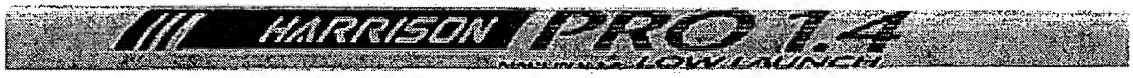
Trajectory Series

The Trajectory Series offers golfers the ability to fine tune a golf ball's laun angle. Engineered to produce either a low or medium trajectory, this series be used to produce a low and penetrating ball flight. It can also be used to generate longer distance without the use of a low lofted head that tends to produce poor ball contact.

Pro 1.4 Low Launch

FEATURES ANIMATION COM



Pro 1.4 Low Launch: X-7200 Graphite
.335" Tip, 1.4° Torque, Extra High Flex Point, 70g, 46", in F/S, S/X Flex (w only)

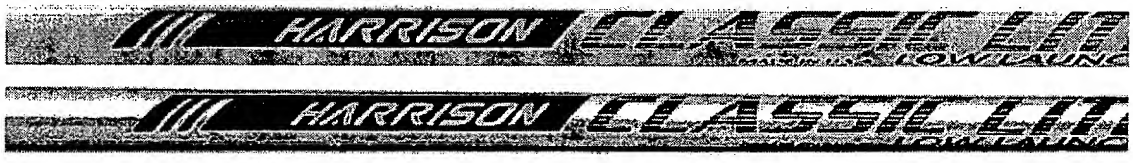
Pro 2.5 Low Launch

FEATURES ANIMATION COM

Pro 2.5 Low Launch: X-6200 Graphite
.335" Tip, 2.5° Torque, Extra High Flex Point, 72g, 46", in R/F, F/S, S/X Fle (woods only)

Classic Lite Low Launch

FEATURES ANIMATION COM



Classic Lite Low Launch: High Modulus Graphite
.335" Tip, 3.9° Torque, Extra High Flex Point, 70g, 46", in A/R, R/F, F/S Fle (woods only)

Classic Lite Mid Launch

ANIMATION COM

Classic Lite Mid Launch: High Modulus Graphite
.335" Tip, 3.9 ° Torque, Mid Flex Point, 70g, 46", in A/R, R/F, F/S Flex (wo
.370" Tip, 3.9 ° Torque, Mid Flex Point, 75g, 40", in A/R, R/F, F/S Flex (iro

Harrison Golf Shafts | Harrison Shaft | Harrison Golf | Harrison Sports | Golf Shaft | Golf Club Shaft | Golf Club Components | Graphite Shaft | Steel Shaft | Titanium Shaft | Golf Components | www.harrison.com | Harrison Golf Equipment | Harrison Pro 2.5 | Pro 2.5 Titanium | Striper Titanium | Long Drive Championship | Jim Thorpe | Club Fitting | Pro 2.5 Ultra Lite | Pro 3.5 Ultralite | Classic Lite Low Launch | Classic Lite Mid Launch | Pro 2.5 Low Launch | Titanium Lite | Pro 2.5 SL50 | Pro 1.4 Low Launch | Pro 1.8 Tour | Pro 2.5 Xtra | Pro 2.5 FL Lite | 50 Lite | Pro 2.5 Tour | Lady FL Lite | Boron Tour | Harrison Professional | Steel Lite | Boron Gold | Tour Classic | Star Plus

XL 95™ Series

The XL 95 Series fine tunes a highly skilled player's game and transforms it one of optimal performance. Used by Tour Professionals, these shafts put a premium on providing a "true feel" and put shot-making back into your har Using the latest breakthrough in graphite technology, these designs produc lowest torque and the tightest shot dispersion possible.

Pro 1.8

ANIMATION USER COMMENTS

Pro 1.8: Boron Reinforced X-6200 Graphite (Boron Certified) .335" Tip, 1.8° Torque, High Flex Point, 95g, 46², in R/F, F/S, S/X Flex (wo only)

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Pro 2.5

ANIMATION ADD COMMENT

Pro 2.5: Boron Reinforced X-5200 Graphite (Boron Certified) .335" Tip, 2.5° Torque, Mid-High Flex Point, 95g, 46², in R/F, F/S, S/X Flex (woods only)

Tour 80™ Series

The Tour Series is designed with today's touring professionals in mind. Crat from the finest graphite currently available, its feel, launch angle, flex profi shot dispersion have been optimized to deliver a shaft of supreme control, stability, precision and distance. A high skill level and a fast swing speed at prerequisites in maximizing the unique benefits of the Tour Series.

Pro 1.8

ANIMATION | USER COMMENTS

Pro 1.8 Tour: Boron Reinforced X-6200 Graphite (Boron Certified) .335" tip, 1.8° Torque, High Flex Point, 85g, 46", in F/S, S/X flex (woods or

Pro 2.5

ANIMATION | USER COMMENTS

Pro 2.5 Tour: Boron Reinforced X-6200 Graphite (Boron Certified) .335" tip, 2.5° Torque, Mid-High Flex Point, 80g, 46", in R/F, F/S, S/X flex (woods only)

Pro 3.5

ADD COMMENT

Pro 3.5 Tour: Boron Reinforced X-5200 Graphite (Boron Certified) .335" tip, 3.5° Torque, Mid Flex Point, 80g, 46", in R/F, F/S flex (woods onl

UL 70™ Series

The father of our National Long Drive Championships winning designs, this targets the strong, ultimate distance-seeking golfer. This competition prov graphite matrix offers the highest performance distance shaft available tod the 70 gram range, this series provides optimal stability enabling the golfe unleash his power. High club head speed and a desire to shorten the course complement this series perfectly.

Pro 2.5

ANIMATION

Pro 2.5 UL 70: Boron Reinforced X-6200 Graphite (Boron Certified)
.335" Tip, 2.5° Torque, Mid-High Flex Point, 70g, 46", in A/R, R/F, F/S, S/X (woods)
.370" Tip, 2.7° Torque, Mid Flex Point, 69g, 40", in R/F, F/S Flex (irons)

Pro 3.5

Pro 3.5 UL 70: Boron Reinforced X-5200 Graphite (Boron Certified)
.335" Tip, 3.5° Torque, Mid-Low Flex Point, 70g, 46", in A/R,R/F, F/S Flex (woods)
.370" Tip, 3.2° Torque, Mid-Low Flex Point, 69g, 40", in R/F, F/S Flex (iron

Pro 4.5

Pro 4.5 UL 70: B r n Reinf rced X-4800 Graphite (B ron Certified)
.335" Tip, 4.5° T rque, Low Flex P int, 70g, 46", in L/A, A/R, R/F Flex (wo
.370" Tip, 3.8° Torque, Low Flex Point, 69g, 40", in L/A, A/R, R/F Flex (iro

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FL 60™ Series

This feather light weight, Boron reinforced series gives back distance and c to experienced golfers seeking to rejuvenate their game. This series' lightw technology optimizes distance and shot dispersion by allowing for longer cl length without sacrificing swing weight. Perfect for players looking to maxi club head speed, accuracy, and control.

Pro 2.5

ANIMATION

Pro 2.5 FL 60: Boron Reinforced X-6200 Graphite (Boron Certified)
.335" tip, 2.6° Torque, Mid Flex Point, 63g, 46", in A/R, R/F, F/S flex (wooc only)

Pro 3.5

Pro 3.5 FL 60: Boron Reinforced X-5200 Graphite (Boron Certified)
.335" tip, 3.5° Torque, Mid-Low Flex Point, 60g, 46", in A/R, R/F, F/S flex (woods)
.350", .370", .398" Tip, 3.5° Torque, Mid-Low Flex Point, 65g, 46", in A/R, I F/S flex (woods)
.370" tip, 3.2° Torque, Mid-Low Flex Point, 64g, 40", in A/R, R/F flex (irons

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Pro 4.5

Pro 4.5 FL 60: Boron Reinforced X-4800 Graphite (Boron Certified)
.335" Tip, 4.5° Torque, Low Flex Point, 60g, 46", in L/A, A/R, R/F, Flex (wc
.370" Tip, 3.8° Torque, Low Flex Point, 65g, 40", in L/A, A/R, R/F, Flex (iro

Pro 5.5

Pro 5.5 FL 60: Boron Reinforced X-4300 Graphite (Boron Certified)
.335" Tip, 5.5° Torque, Extra-Low Flex Point, 60g, 46", in L/A, A/R, R/F, Fl
(woods only)

50 Lite

50 Lite: Boron Reinforced X-4800 Graphite (Boron Certified)
.335" tip, 4.0° Torque, Mid Flex Point, 60g, 50", in R/F, F/S flex (woods onl

Harrison Golf Shafts | Harrison Shaft | Harrison Golf | Harrison Sports | Golf Shaft | Golf Club Shaft | Golf Club Components | Graphite Shaft | Steel Shaft | Titanium Shaft | Golf Components | www.harrison.com | Harrison Golf Equipment | Harrison Pro 2.5 | Pro 2.5 Titanium | Striper Titanium | Long Drive Championship | Jim Thorpe | Club Fitting | Pro 2.5 Ultra Lite | Pro 3.5 Ultralite | Classic Lite Low Launch | Classic Lite Mid Launch | Pro 2.5 Low Launch | Titanium Lite | Pro 2.5 SL50 | Pro 1.4 Low Launch | Pro 1.8 Tour | Pro 2.5 Xtra | Pro 2.5 FL Lite | 50 Lite | Pro 2.5 Tour | Lady FL Lite | Boron Tour | Harrison Professional | Steel Lite | Boron Gold | Tour Classic | Star Plus

SL 50 Series

The SL50 Series enables the golfer with a controlled, yet relaxed swing to recapture the distance and competitive "bite" in their game. In the 50 gran range, half that of a standard graphite shaft, this series' super lightweight empowers the more methodical golfer to take back their game. It's Boron reinforced, ultra-high modulus material is the most advanced blend availab provides the ultimate combination of light weight, strength and torsional stability.

Pro 2.5

ANIMATION USER COMMENTS

Pro2.5 SL 50: Boron Reinforced X-6200 Graphite (Boron Certified) .335" Tip,2.6° Torque, Mid Flex Point, 53g, 46", in L/A, A/R, R/F Flex (woo only)

Pro 3.5

USER COMMENTS

Pro 3.5 SL 50: Boron Reinforced X-5200 Graphite (Boron Certified) .335" Tip,3.6° Torque, Mid-Low Flex Point, 50g, 46", in L/A, A/R, R/F Flex (woods only)

Pro 5.5

USER COMMENTS

Pro 5.5 SL 50: Boron Reinforced X-4300 Graphite (Boron Certified) .335" Tip, 5.5° Torque, Low Flex Point, 50g, 46", in L/A, A/R, R/F Flex (wo only)

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Long Drive Series

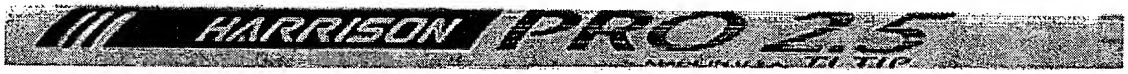
Pro 1.4 Low Launch

FEATURES ANIMATION USER COMMEN

Pro 1.4 Low Launch: X-7200 Graphite
.335" tip, 1.4° Torque, Extra High Flex Point, 90g, 52", in S/X, X/2X Flex (v only)

Pro 2.5 Ti Tip

FEATURES ANIMATION USER COMMEN



Pro 2.5 Ti Tip: Titanium Reinforced Tip, X-7200 Graphite
.335" tip,2.5° Torque, High Flex Point, 85g, 52", in S/X, 2X/3X Flex (woods

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Pro 2.5 FL Lite Xtra

FEATURES ANIMATION ADD COMMEN

Pro 2.5 FL Lite Xtra: Boron Reinforced X-6200 Graphite (Boron Certified)
.335" tip, 2.5° Torque, High Flex Point, 67g, 48" / 74g, 50", in S/X, X/2X fl (woods only)

Pro 2.5 Long Drive

FEATURES ANIMATION ADD COMMEN

Pro 2.5 Long Drive: Boron Reinforced X-6200 Graphite (Boron Certified)
.335" tip, 2.5° Torque, High Flex Point, 104g, 50", in S/X, X/2X Flex (wood only)
.335" tip, 2.5° Torque, High Flex Point, 115g, 55", in X/2X Flex (woods onl)
.335" tip, 2.5° Torque, High Flex Point, 118g, 61", in 4X Flex (wo ds only)

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Championship Series

The championship series fine tunes a highly skilled player's game and trans it into one of optimal performance. Used by Tour Professionals, these shaft premium on providing a "true feel" and put shot making back into your han Using the latest breakthrough in graphite technology, this design produces lowest torque and the tightest shot dispersion possible.

Pro 2.5 Pro Weight™

Pro 2.5 Pro Weight: X-5200 Graphite.
.370" Tip, 2.0° Torque, Mid-High Flex Point, 114g, 40" in R/F, F/S Flex (iro only)

Pro 2.5 Pro Wedge™

Po 2.5 Pro Wedge: X-5200 Graphite.
.370" Tip, 1.7° Torque, Mid-High Flex Point, 113g, 36", in 360 CPM (irons o

Boron Tour

Boron Tour: Boron Reinforced Super High Modulus Graphite (Boron Certifie .335" Tip, 2.8° Torque, Mid-High Flex Point, 93g, 46", in R/F, F/S, S/X Flex (woods only)

Tour Star

T ur Star: The patent-pending "T tally Matched System□" (TMS) synchr n Flex Point, frequency and t rque. The Tour Star pr vides the ultimate in a precision matched set of high performance shafts. Each shaft is individuall designed and tuned to meet the demands of top professionals. U.S. Patent 5,722,899 .370" Tip, 2.8° Torque, Mid-High Flex Point, 90g, 40", in A, R, F, (irons only)

Pro Star

Pro Star: Designed as a set to produce a true frequency and flex profile. An unique blend of weight distribution and kick point make it an excellent shaf the above average player.
.355" Tip, 3.0° Torque, Mid Flex Point, 95g, 40" in A, R, F Flex (irons only)

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Performance Series

Professional

Professional: Boron Reinforced High Modulus Graphite (Boron Certified)
.335" Tip, 3.3° Torque, Mid-High Flex Point, 96g, 46", in R/F, F/S Flex (woo
.370" Tip, 2.8° Torque, Mid-High Flex Point, 89g, 40", in R/F, F/S Flex (iron

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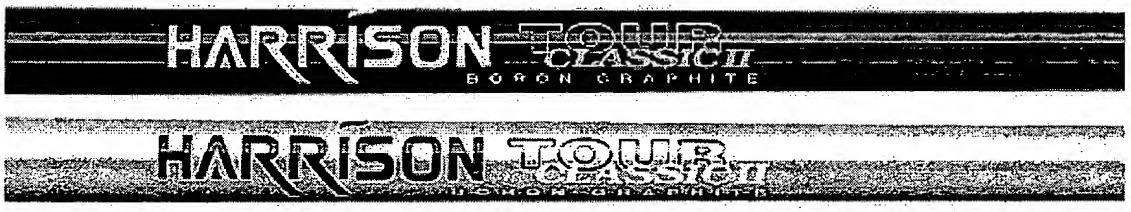
Boron Gold

Boron Gold: Boron Reinforced High Modulus Graphite (Boron Certified)
.335" Tip, 3.8° Torque, Mid Flex Point, 93g, 46", in A/R, R/F, F/S Flex (woo
.370" Tip, 3.0° Torque, Mid Flex Point, 89g, 40", in A/R, R/F, F/S Flex (iron

Tour Classic II



Tour Classic II: Boron Reinforced High Strain & Intermediate Modulus Grap
.335" Tip, 4.6° Torque, Low Flex Point, 93g, 46", in L/A, A/R, R/F, F/S Flex (w ds)
.370" Tip, 3.6° T rque, L w Flex Point, 89g, 40", in L/A, A/R, R/F, F/S Flex (ir ns)

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Lady Series

Lady FL Lite

Lady FL Lite: X-4200 Graphite. Engineered for discriminating lady golfers se extra distance and a lighter feel. The Lady FL Lite maximizes swing speed a distance without sacriþcing consistency.
.335" Tip, 5.3° Torque, Extra-Low Flex, 55g, 45", in L Flex (woods)
.370" Tip, 4.0° Torque, Extra-Low Flex, 55g, 40", in L Flex (irons)

Lady Classic

Lady Classic: The Lady Graphite Matrix offers increased þexibility and a soft feel while maximizing both playability and distance.
.335" Tip, 5.0° Torque, Extra-Low Flex, 82g, 44", in L Flex (woods)
.370" Tip, 4.0° Torque, Extra-Low Flex, 79g, 39", in L Flex (irons)

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Value Series

Star Plus

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Star Plus: High Strain Carbon Graphite. The mid weight and low flex point d makes the Star Plus an excellent game improvement shaft.
.335" Tip, 4.8° Torque, Low Flex Point, 89g, 45", in L/A, A/R, R/F, F/S Flex (woods)
.370" Tip, 4.2° Torque, Low Flex Point, 87g, 40", in L/A, A/R, R/F, F/S Flex (irons)

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Junior Series

Shockwave

Shockwave: Designed to be the premiere game improvement shaft for yout Shockwave incorporates a junior þex for a higher trajectory and an extra ki impact.
.335" Tip, 8° Torque, Extra-Low Flex, 75g, 39", in Junior Flex (woods)
.370" Tip, 7° Torque, Extra-Low Flex, 75g, 36", in Junior Flex (irons)

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